

# 12. Implementation Strategy

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The Levee Program objective is to reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees. The vulnerability of the levee system to both static and dynamic failure can be reduced by implementing an integrated and comprehensive management program for levees.

Implementation objectives, targets, and actions for the individual Levee Program elements are presented in Tables 2, 4, 6, 7, and 8.

Staged implementation and staged decision making will be part of the implementation strategy as they support the adaptive management process (refer to the discussion under "Adaptive Management"). The program will be implemented in stages according to major program milestones. Stage 1 is 7 years long, will start in 2000, and includes the following actions:

1. Develop and implement an outreach, coordination, and partnering program with local landowners, including individuals, local agencies, resource conservation districts, water authorities, irrigation districts, farm bureaus, and other local agencies to ensure local participation in planning design, implementation, and management of levee projects. (Year 1.)
2. Obtain short-term federal and state funding authority as a bridge between the existing Delta Flood Protection Authority (AB 360) and long-term levee funding. (Years 1-5.)
3. Obtain long-term federal and state funding authority (e.g., the Corps' current "Delta Special Study" could develop into a long-term Delta levee reconstruction program and the State would be the local cost-sharing partner). (Years 1-7.)
4. Conduct project level environmental documentation and obtain appropriate permits for each bundle (package) of Stage 1 actions. (Years 1-7.)
5. Implement demonstration projects for levee designs that minimize the need for continuous disruption of habitat from levee maintenance and minimize the need for ongoing mitigation from disrupted habitat. (Years 1-7.)
6. Coordinate Delta levee improvements with ecosystem restoration improvements (e.g., coordinate improvements, modify maintenance manuals as appropriate to

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accommodate Ecosystem Restoration Program actions near levees, and separately track levee mitigation costs and Ecosystem Restoration Program costs). (Years 1-7.)

7. Fund levee improvements up to the PL 84-99 standard, approximately \$151 million (\$71 million during Years 1-5 and \$80 million during Years 6-7) in Stage 1 (e.g., proportionally distribute available funds to entities making application for cost sharing of Delta levee improvements). (Years 1-7.)
8. Further improve levees with significant statewide benefits, approximately \$84 million (\$60 million during years 1-5 and \$24 million during Years 6-7) in Stage 1 (e.g., improve levees with statewide benefits to ecosystem, water supply, economy, water quality, and infrastructure). (Years 1-7.)
9. Coordinate Delta levee improvements with Stage 1 water conveyance improvements and with potential conveyance improvements in subsequent stages. (Years 1-7.)
10. Enhance existing emergency response plans, approximately \$29 million in Stage 1 (e.g., establish a \$10 million revolving fund, continue to refine command and control protocol, stockpile flood-fighting supplies, establish pre-negotiated contracts for flood-fighting and recovery operations, and outline environmental considerations during an emergency). (Years 1-7.)
11. Implement current BMPs to correct subsidence effects on levees. Develop and implement BMPs to facilitate CALFED objectives. Assist CMARP activities to quantify the effect and extent of inner-island subsidence and its linkages to all CALFED objectives. (Years 1-7.)
12. Complete total risk assessment for Delta levees and develop and begin implementation of risk management options as appropriate to mitigate potential consequences. (Years 1-7.) Available CALFED risk management options may include:
  - Improving emergency response capabilities,
  - Developing storage south of the Delta,
  - Reducing the fragility of the levees,
  - Improving through-Delta conveyance,
  - Releasing more water stored north of the Delta,
  - Restoring tidal wetlands,
  - Controlling and reversing island subsidence,
  - Curtailing Delta diversions,
  - Continuing to monitor and analyze total risk, and
  - Constructing an isolated facility.

Knowledge gained from monitoring and research will be incorporated into staged implementation and decision making through a feedback process as part of adaptive management. The CMARP will play a key role in the adaptive management approach to Levee Program implementation.

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Other key points for Levee Program implementation include:

- The Levee Program will need to coordinate and provide a reliable funding source for the planning, regulatory, and permitting processes that affect the levee system.
- The Levee Program will be built on a foundation of existing state, federal, and local laws and agency programs. The Levee Program will supplement and improve these existing programs, eliminate deficiencies, and enhance opportunities to improve levee system integrity.
- In keeping with CALFED's commitment to concurrently make broad improvements in many areas, every effort will be made to integrate Levee Program actions in such a way as to provide opportunities for resolution of multiple problems in the Delta and to coordinate Levee Program actions with other CALFED actions. Levee improvements will be coordinated with ecosystem restoration and conveyance improvements to protect existing Delta characteristics and processes.
- The Levee Program will seek to reduce conflicts where possible.
- Implementation of Stage 1 actions is contingent on successful completion of appropriate environmental documentation.

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